



**Analytical Resources, Incorporated**  
Analytical Chemists and Consultants

January 6, 2012

Pam Morrill  
CDM  
14432 SE Eastgate Way, Suite 100  
Bellevue, WA 98007

**Project: Rainier Commons, 79179-78891-Task 3 Storm**  
**ARI Job No.: UC83**

Dear Pam:

Please find enclosed the Chain-of-Custody (COC) record, sample receipt documentation, and the final results for samples from the project referenced above. Analytical Resources Inc. (ARI) accepted one water sample on December 29, 2011. For details regarding sample receipt, please refer to the enclosed Cooler Receipt Form.

The sample was analyzed for PCBs as requested.

There were no other anomalies associated with the analysis of this sample.

An electronic copy of this report as well as all supporting data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Cheronne Oreiro  
Project Manager  
(206) 695-6214  
[cheronneo@arilabs.com](mailto:cheronneo@arilabs.com)  
[www.arilabs.com](http://www.arilabs.com)

cc: eFile: UC83

Enclosures

Page 1 of 9

## CHAIN-OF-CUSTODY

Date 12/28/11 Page 7 of 1

PROJECT INFORMATION					Laboratory Number:	ANALYSIS REQUEST															NUMBER OF CONTAINERS
Project Manager: <u>Pam MORRIS</u>					<div> <div> <div>TPH-HCID</div> <div>State:</div> </div> <div> <div>TPH-G</div> <div>State:</div> </div> <div> <div>TPH-D</div> <div>State:</div> </div> <div> <div>TPH-418.1</div> <div>State:</div> </div> <div> <div>8015M Fuel Hydrocarbon</div> <div>State:</div> </div> <div> <div>TPH-Special Instructions</div> <div>State:</div> </div> <div> <div>8010 Halogenated VOCs</div> <div>State:</div> </div> <div> <div>8020M - BETX only</div> <div>State:</div> </div> <div> <div>8240 GC/MS Volatiles</div> <div>State:</div> </div> <div> <div>8270 GC/MS Semivolatiles</div> <div>State:</div> </div> <div> <div>8310 PAHs</div> <div>State:</div> </div> <div> <div>8040 Phenols</div> <div>State:</div> </div> <div> <div>DMS - Volatiles and Semivolatiles</div> <div>State:</div> </div> </div>	PESTICIDES/PCBs					METALS			LEACHING TESTS			OTHER				
Project Name: <u>Rainier Commons</u>						<div> <div>8080M PCBs only</div> <div>8080 OC Pest/PCBs</div> <div>8140 OP Pesticides</div> <div>8150 OC Herbicides</div> <div>DMS - Herb/Pest</div> <div>Selected Metals: list</div> <div>Organic Lead (Ca)</div> <div>TCL Metals (23)</div> <div>Priority Poll. Metals (13)</div> <div>DMS - Metals</div> <div>MFSP - Metals (Wa)</div> </div>					<div> <div>TCLP - Metals</div> <div>TCLP - Pesticides</div> <div>TCLP - Semivolatiles</div> <div>TCLP - Volatiles (ZHE)</div> </div>			<div> <div></div> <div></div> <div></div> </div>							
Project Number: <u>79179 - 78891 - Task 3 Storm</u>																					
Site Location: <u>Seattle</u> Sampled By: <u>PSM</u>																					
DISPOSAL INFORMATION					<div> <div>TPH-HCID</div> <div>State:</div> </div> <div> <div>TPH-G</div> <div>State:</div> </div> <div> <div>TPH-D</div> <div>State:</div> </div> <div> <div>TPH-418.1</div> <div>State:</div> </div> <div> <div>8015M Fuel Hydrocarbon</div> <div>State:</div> </div> <div> <div>TPH-Special Instructions</div> <div>State:</div> </div> <div> <div>8010 Halogenated VOCs</div> <div>State:</div> </div> <div> <div>8020M - BETX only</div> <div>State:</div> </div> <div> <div>8240 GC/MS Volatiles</div> <div>State:</div> </div> <div> <div>8270 GC/MS Semivolatiles</div> <div>State:</div> </div> <div> <div>8310 PAHs</div> <div>State:</div> </div> <div> <div>8040 Phenols</div> <div>State:</div> </div> <div> <div>DMS - Volatiles and Semivolatiles</div> <div>State:</div> </div>	ANALYSIS REQUEST															NUMBER OF CONTAINERS
<div> <div> <div>TPH-HCID</div> <div>State:</div> </div> <div> <div>TPH-G</div> <div>State:</div> </div> <div> <div>TPH-D</div> <div>State:</div> </div> <div> <div>TPH-418.1</div> <div>State:</div> </div> <div> <div>8015M Fuel Hydrocarbon</div> <div>State:</div> </div> <div> <div>TPH-Special Instructions</div> <div>State:</div> </div> <div> <div>8010 Halogenated VOCs</div> <div>State:</div> </div> <div> <div>8020M - BETX only</div> <div>State:</div> </div> <div> <div>8240 GC/MS Volatiles</div> <div>State:</div> </div> <div> <div>8270 GC/MS Semivolatiles</div> <div>State:</div> </div> <div> <div>8310 PAHs</div> <div>State:</div> </div> <div> <div>8040 Phenols</div> <div>State:</div> </div> <div> <div>DMS - Volatiles and Semivolatiles</div> <div>State:</div> </div> </div>						PESTICIDES/PCBs					METALS			LEACHING TESTS			OTHER				
<div> <div> <div>TPH-HCID</div> <div>State:</div> </div> <div> <div>TPH-G</div> <div>State:</div> </div> <div> <div>TPH-D</div> <div>State:</div> </div> <div> <div>TPH-418.1</div> <div>State:</div> </div> <div> <div>8015M Fuel Hydrocarbon</div> <div>State:</div> </div> <div> <div>TPH-Special Instructions</div> <div>State:</div> </div> <div> <div>8010 Halogenated VOCs</div> <div>State:</div> </div> <div> <div>8020M - BETX only</div> <div>State:</div> </div> <div> <div>8240 GC/MS Volatiles</div> <div>State:</div> </div> <div> <div>8270 GC/MS Semivolatiles</div> <div>State:</div> </div> <div> <div>8310 PAHs</div> <div>State:</div> </div> <div> <div>8040 Phenols</div> <div>State:</div> </div> <div> <div>DMS - Volatiles and Semivolatiles</div> <div>State:</div> </div> </div>						PESTICIDES/PCBs					METALS			LEACHING TESTS			OTHER				
<div> <div> <div>TPH-HCID</div> <div>State:</div> </div> <div> <div>TPH-G</div> <div>State:</div> </div> <div> <div>TPH-D</div> <div>State:</div> </div> <div> <div>TPH-418.1</div> <div>State:</div> </div> <div> <div>8015M Fuel Hydrocarbon</div> <div>State:</div> </div> <div> <div>TPH-Special Instructions</div> <div>State:</div> </div> <div> <div>8010 Halogenated VOCs</div> <div>State:</div> </div> <div> <div>8020M - BETX only</div> <div>State:</div> </div> <div> <div>8240 GC/MS Volatiles</div> <div>State:</div> </div> <div> <div>8270 GC/MS Semivolatiles</div> <div>State:</div> </div> <div> <div>8310 PAHs</div> <div>State:</div> </div> <div> <div>8040 Phenols</div> <div>State:</div> </div> <div> <div>DMS - Volatiles and Semivolatiles</div> <div>State:</div> </div> </div>						PESTICIDES/PCBs					METALS			LEACHING TESTS			OTHER				
<div> <div> <div>TPH-HCID</div> <div>State:</div> </div> <div> <div>TPH-G</div> <div>State:</div> </div> <div> <div>TPH-D</div> <div>State:</div> </div> <div> <div>TPH-418.1</div> <div>State:</div> </div> <div> <div>8015M Fuel Hydrocarbon</div> <div>State:</div> </div> <div> <div>TPH-Special Instructions</div> <div>State:</div> </div> <div> <div>8010 Halogenated VOCs</div> <div>State:</div> </div> <div> <div>8020M - BETX only</div> <div>State:</div> </div> <div> <div>8240 GC/MS Volatiles</div> <div>State:</div> </div> <div> <div>8270 GC/MS Semivolatiles</div> <div>State:</div> </div> <div> <div>8310 PAHs</div> <div>State:</div> </div> <div> <div>8040 Phenols</div> <div>State:</div> </div> <div> <div>DMS - Volatiles and Semivolatiles</div> <div>State:</div> </div> </div>					PESTICIDES/PCBs					METALS			LEACHING TESTS			OTHER					
<div> <div> <div>TPH-HCID</div> <div>State:</div> </div> <div> <div>TPH-G</div> <div>State:</div> </div> <div> <div>TPH-D</div> <div>State:</div> </div> <div> <div>TPH-418.1</div> <div>State:</div> </div> <div> <div>8015M Fuel Hydrocarbon</div> <div>State:</div> </div> <div> <div>TPH-Special Instructions</div> <div>State:</div> </div> <div> <div>8010 Halogenated VOCs</div> <div>State:</div> </div> <div> <div>8020M - BETX only</div> <div>State:</div> </div> <div> <div>8240 GC/MS Volatiles</div> <div>State:</div> </div> <div> <div>8270 GC/MS Semivolatiles</div> <div>State:</div> </div> <div> <div>8310 PAHs</div> <div>State:</div> </div> <div> <div>8040 Phenols</div> <div>State:</div> </div> <div> <div>DMS - Volatiles and Semivolatiles</div> <div>State:</div> </div> </div>					PESTICIDES/PCBs					METALS			LEACHING TESTS			OTHER					
<div> <div> <div>TPH-HCID</div> <div>State:</div> </div> <div> <div>TPH-G</div> <div>State:</div> </div> <div> <div>TPH-D</div> <div>State:</div> </div> <div> <div>TPH-418.1</div> <div>State:</div> </div> <div> <div>8015M Fuel Hydrocarbon</div> <div>State:</div> </div> <div> <div>TPH-Special Instructions</div> <div>State:</div> </div> <div> <div>8010 Halogenated VOCs</div> <div>State:</div> </div> <div> <div>8020M - BETX only</div> <div>State:</div> </div> <div> <div>8240 GC/MS Volatiles</div> <div>State:</div> </div> <div> <div>8270 GC/MS Semivolatiles</div> <div>State:</div> </div> <div> <div>8310 PAHs</div> <div>State:</div> </div> <div> <div>8040 Phenols</div> <div>State:</div> </div> <div> <div>DMS - Volatiles and Semivolatiles</div> <div>State:</div> </div> </div>					PESTICIDES/PCBs					METALS			LEACHING TESTS			OTHER					
<div> <div> <div>TPH-HCID</div> <div>State:</div> </div> <div> <div>TPH-G</div> <div>State:</div> </div> <div> <div>TPH-D</div> <div>State:</div> </div> <div> <div>TPH-418.1</div> <div>State:</div> </div> <div> <div>8015M Fuel Hydrocarbon</div> <div>State:</div> </div> <div> <div>TPH-Special Instructions</div> <div>State:</div> </div> <div> <div>8010 Halogenated VOCs</div> <div>State:</div></div></div>																					

LAB INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
Lab Name: <b>ART</b>	Total Number of Containers:	Signature: <i>[Signature]</i>	Time:	Signature	Time	Signature.	Time.	Signature.	Time.
Lab Address: <b>Seattle</b>	Chain of Custody Seals: Y/N/NA	Printed Name: <b>Pamela J. Moore</b>	Date:	Printed Name	Date	Printed Name	Date	Printed Name	Date.
	Intact? Y/N/NA	Company: <b>CDM</b>		Company.		Company.		Company.	
Via: <b>Carrier</b>	Received in Good Condition/Cold::	<b>RECEIVED BY: 1.</b>		<b>RECEIVED BY: 2.</b>		<b>RECEIVED BY: 3.</b>			
Turn Around Time: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 72 hr. <input type="checkbox"/> 1 wk.		Signature: <i>[Signature]</i>	Time: <b>10:48</b>	Signature.	Time.	Signature.	Time.	Signature.	Time.
<b>PRIOR AUTHORIZATION IS REQUIRED FOR RUSH DATA</b>		Printed Name: <b>Tate Ugas</b>	Date: <b>12/29</b>	Printed Name.	Date	Printed Name.	Date	Printed Name.	Date.
Special Instructions:		Company: <b>ART</b>		Company.		Company.		Company.	

CDM Offices: Bellevue. (425) 519-8300  
Seattle. (206) 336-4900

DISTRIBUTION: White, Canary to Analytical Laboratory; Pink to CDM Project Files; Gold to CDM Disposal Files  
form/field/chain of custody. p65

**RCLLC 0012563**



Analytical Resources, Incorporated  
Analytical Chemists and Consultants

# Cooler Receipt Form

ARI Client COM  
COC No(s) NA  
Assigned ARI Job No. UC83

Project Name: Rainier Commons  
Delivered by: Fed-Ex UPS Courier Hand Delivered Other: ARI  
Tracking No: \_\_\_\_\_ NA

## Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 7.6

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 90877 9094169

Cooler Accepted by JM Date 12/29/11 Time 1008

**Complete custody forms and attach all shipping documents**

## Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: \_\_\_\_\_

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI: NA

Was Sample Split by ARI: NA YES Date/Time: \_\_\_\_\_ Equipment: \_\_\_\_\_ Split by: \_\_\_\_\_

Samples Logged by JM Date: 12/29/11 Time: 1044

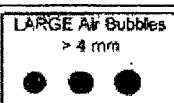
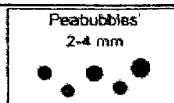
**\*\* Notify Project Manager of discrepancies or concerns \*\***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

## Additional Notes, Discrepancies, & Resolutions:

By

Date



Small → "sm"

Peabubbles → "pb"

Large → "lg"

Headspace → "hs"

# Cooler Temperature Compliance Form

[illegible]

# Sample ID Cross Reference Report



ARI Job No: UC83  
Client: CDM, Inc.  
Project Event: 79179-78891-Task 3 Storm  
Project Name: Rainier Commons

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. 1W1056A-12/11	UC83A	11-29536	Water	12/28/11 14:00	12/29/11 10:08


Printed 12/29/11

UC83 : 00005

RCLLC 0012566

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1

Sample ID: 1W1056A-12/11  
SAMPLE

Lab Sample ID: UC83A  
LIMS ID: 11-29536  
Matrix: Water  
Data Release Authorized:   
Reported: 01/06/12

QC Report No: UC83-CDM, Inc.  
Project: Rainier Commons  
79179-78891-Task 3 Storm  
Date Sampled: 12/28/11  
Date Received: 12/29/11

Date Extracted: 01/03/12  
Date Analyzed: 01/05/12 02:09  
Instrument/Analyst: ECD7/JGR  
GPC Cleanup: No  
Sulfur Cleanup: Yes

Sample Amount: 500 mL  
Final Extract Volume: 1.0 mL  
Dilution Factor: 1.00  
Silica Gel: No  
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.10	< 0.10 U
53469-21-9	Aroclor 1242	0.10	< 0.10 U
12672-29-6	Aroclor 1248	0.12	< 0.12 Y
<b>11097-69-1</b>	<b>Aroclor 1254</b>	<b>0.10</b>	<b>0.21</b>
<b>11096-82-5</b>	<b>Aroclor 1260</b>	<b>0.10</b>	<b>0.14</b>
11104-28-2	Aroclor 1221	0.10	< 0.10 U
11141-16-5	Aroclor 1232	0.10	< 0.10 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	56.0%
Tetrachlorometaxylene	75.2%

**SW8082/PCB WATER SURROGATE RECOVERY SUMMARY**

Matrix: Water

QC Report No: UC83-CDM, Inc.  
Project: Rainier Commons  
79179-78891-Task 3 Storm

<u>Client ID</u>	<u>DCBP</u> <u>% REC</u>	<u>DCBP</u> <u>LCL-UCL</u>	<u>TCMX</u> <u>% REC</u>	<u>TCMX</u> <u>LCL-UCL</u>	<u>TOT OUT</u>
MB-010312	93.5%	39-116	82.2%	29-100	0
LCS-010312	101%	39-116	81.2%	29-100	0
LCSD-010312	93.2%	39-116	78.2%	29-100	0
1W1056A-12/11	56.0%	10-128	75.2%	25-100	0

Prep Method: SW3510C  
Log Number Range: 11-29536 to 11-29536

**FORM-II SW8082**

**ORGANICS ANALYSIS DATA SHEET**  
**PCB by GC/ECD Method SW8082**  
Page 1 of 1

**Sample ID: LCS-010312**  
**LCS/LCSD**

Lab Sample ID: LCS-010312  
LIMS ID: 11-29536  
Matrix: Water  
Data Release Authorized: *JS*  
Reported: 01/06/12

QC Report No: UC83-CDM, Inc.  
Project: Rainier Commons  
79179-78891-Task 3 Storm  
Date Sampled: NA  
Date Received: NA

Date Extracted LCS/LCSD: 01/03/12  
Date Analyzed LCS: 01/05/12 01:08  
LCSD: 01/05/12 01:29  
Instrument/Analyst LCS: ECD7/JGR  
LCSD: ECD7/JGR  
GPC Cleanup: No  
Sulfur Cleanup: Yes

Sample Amount LCS: 500 mL  
LCSD: 500 mL  
Final Extract Volume LCS: 1.0 mL  
LCSD: 1.0 mL  
Dilution Factor LCS: 1.00  
LCSD: 1.00  
Silica Gel: No  
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	0.743	1.00	74.3%	0.686	1.00	68.6%	8.0%
Aroclor 1260	0.957	1.00	95.7%	0.877	1.00	87.7%	8.7%

**PCB Surrogate Recovery**

	LCS	LCSD
Decachlorobiphenyl	101%	93.2%
Tetrachlorometaxylene	81.2%	78.2%

Results reported in µg/L  
RPD calculated using sample concentrations per SW846.



ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1



Sample ID: MB-010312  
METHOD BLANK

Lab Sample ID: MB-010312  
LIMS ID: 11-29536  
Matrix: Water  
Data Release Authorized: *[Signature]*  
Reported: 01/06/12

QC Report No: UC83-CDM, Inc.  
Project: Rainier Commons  
79179-78891-Task 3 Storm  
Date Sampled: NA  
Date Received: NA

Date Extracted: 01/03/12  
Date Analyzed: 01/05/12 00:48  
Instrument/Analyst: ECD7/JGR  
GPC Cleanup: No  
Sulfur Cleanup: Yes

Sample Amount: 500 mL  
Final Extract Volume: 1.0 mL  
Dilution Factor: 1.00  
Silica Gel: No  
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.10	< 0.10 U
53469-21-9	Aroclor 1242	0.10	< 0.10 U
12672-29-6	Aroclor 1248	0.10	< 0.10 U
11097-69-1	Aroclor 1254	0.10	< 0.10 U
11096-82-5	Aroclor 1260	0.10	< 0.10 U
11104-28-2	Aroclor 1221	0.10	< 0.10 U
11141-16-5	Aroclor 1232	0.10	< 0.10 U

Reported in µg/L (ppb)

**PCB Surrogate Recovery**

Decachlorobiphenyl	93.5%
Tetrachlorometaxylene	82.2%